Inclined Plane Formulas

F**||  =** Fg (sin Θ) **=** mg sin Θ

Force parallel to the plane

F**⊥ =** Fg (cos Θ)= mg cos Θ

Force perpendicular to the plane

µ = F**||  ÷** F**⊥**

Mu, the coefficient of friction

Ff **=** µ *x* F**⊥**

Force of friction

When solving any problem set, the resultant force experienced by a load on the plane is to be set equal to the Mass of the box times its acceleration when known. This force is equal to the parallel force minus the frictional force:

ma **=**  mg sin Θ **-**  µ *x* mg cos Θ

Some textbooks will simplify this still further and state the equation as

a = g tan Θ